

Claims

1. System (1) comprising
 - at least one electrical component (2), that is provided with at least one electrical contact surface (20),
 - at least one electrical connecting lead (3) for electrically contacting the contact surface (20) of the component (2) and
 - at least one electrical insulating layer (4), which is disposed on the component (2) and encompasses at least one opening (42) which is continuous in the direction of the thickness (40) of the insulating layer (4) and is arranged so as to lie opposite the contact surface (20) of the component (2), in which case
 - the insulating layer (4) is provided with a lateral surface (43) that delimits the opening (42) and
 - the electrical connecting lead (3) is provided with at least one metallization layer (30) located on the lateral surface (43),characterized in that
 - the metallization layer (30) is oriented at an angle to the contact surface (20).
2. System as claimed in claim 1, in which the metallization layer is oriented at an angle to the contact surface (20), which is selected from the range from 30° up to and including 80°. The angle is preferably selected from the range from 50° up to and including 70°.
3. System as claimed in claim 1 or 2, in which the metallization layer (30) has a layer thickness (32) which has been selected from the range from 0.5 μm up to and including 30 μm and above all from the range from 2.0 μm up to and including 20 μm .
4. System as claimed in one of the claims 1 to 3, in which the

metallization layer (30) above all has a multi-layered structure with at least two partial metallization layers arranged (33) one upon the other (33).

5. System as claimed in one of the claims 1 to 4, in which the lateral surface (43) of the insulating layer (4), on which the metallization layer (30) is located has at least one step (44).
6. System as claimed in one of the claims 1 to 5, in which the insulating layer (4) has a layer thickness (41), has been selected from the range from 20 μm up to and including 500 μm and particularly from the range from 50 μm up to and including 200 μm .
7. System as claimed in one of the claims 1 to 6, in which the insulating layer (4) has a multi-layered structure with at least two partial insulating layers (45) arranged on top of the other.
8. System as claimed in one of the claims 1 to 6, in which the insulating layer (4) is formed by laminating at least one insulating foil onto the component (2).
9. System as claimed in claim 8, in which at least one part of the insulating foil (4) is laminated onto the component (2) in such a way that a surface contour (25) of the component (2) is shown in a surface contour (47) of one part of the insulating foil (4) that has been turned away from the component (2).
10. System as claimed in one of the claims 1 to 9, in which the connecting lead (3) has at least one section (34), which is located on the insulating layer (4) and is provided with a thickness (35), which exceeds the layer thickness (32) of the metallization layer (30).

11. System as claimed in one of the claims 1 to 10, in which the section (34) of the connecting lead (3) is electrodeposited (36).
12. System as claimed in claim 11, in which the metallization layer (30) and/or the electrodeposition (36) has a metal selected from the aluminum, the gold, the copper, the molybdenum, the silver, the titanium and/or the tungsten group.
13. System as claimed in one of the claims 1 to 12, in which the component (2) is a semiconductor component.
14. System as claimed in claim 13, in which the semiconductor component is a power semiconductor component.
15. System as claimed in claim 14, in which the power semiconductor component is selected from the diode, the MOSFET, the IGBT, the thyristor and/or the bipolar transistor group.
16. System as claimed in one of the claims 1 to 15, in which the insulating layer (4) has a plurality of openings (42), which form one row (49) or a matrix (48).
17. Method for the production of said system (1) as claimed in one of the claims 1 to 16 with the following procedural steps:
 - a) providing a component (2) with an electrical contact surface (20),
 - b) producing an insulating layer (4) on the component (4) that encompasses at least one continuous opening (42) so that the contact surface (20) of the component (2) is freely accessible, and
 - c) locating the metallization layer (30) of the connecting lead (3) on a lateral surface (43) of the insulating layer (4) that delimits the opening (42) in such a way that the

metallization layer (30) is oriented at an angle to the contact surface (20).

18. Method as claimed in claim 17, in which the following procedural steps are implemented for the production of the insulating layer (4) on the component (2):
 - d) laminating at least one insulating foil (4) onto the component (2) and
 - e) producing an opening (42) in the insulating foil (4) so that the contact surface (20) of the component (2) is exposed.
19. Method as claimed in claim 18, in which case the insulating foil (4) is laminated under vacuum.
20. Method as claimed in claim 18 or 19, in which the opening (42) in the insulating foil (4) is made by laser ablation.
21. Method as claimed in one of the claims 17 to 20, in which in order to produce the insulating layer (4) on the component (2) a compressed air process is used in which a paint is applied to the component.
22. Method as claimed in claim 21, in which a photo-sensitive paint is used.
23. Method as claimed in one of the claims 17 to 22, in which for applying the metallization layer (30) and/or producing the insulating layer (4) on the component, a vapor deposition method is used.
24. Method as claimed in one of the claims 17 to 23, in which before and/or after the application of the metallization layer to the lateral surface, a section (34) of the connecting lead (3) is produced on the insulating layer, the thickness (35) of which exceeds the layer thickness (32) of the metallization layer (30).

25. Method as claimed in claim 24, in which a metal is electrodeposited to produce the section (34) on the insulating layer (4).
26. Method as claimed in claim 24 or 25, in which, while the section (34) is being produced, the opening (42) of the insulating layer (4) is closed.